

FE76

Diagram No. 8802-3

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

DESCRIPTIVE REPORT

Type of Survey ... Field Examination

Field No.

Registry No. FE-76

LOCALITY

State Reconnaissance Lines

General Locality ... Run In

Sublocality Bristol Bay, Alaska

1949

CHIEF OF PARTY

R.W. Knox

LIBRARY & ARCHIVES

DATE December 15, 1949

☆U.S. GOV. PRINTING OFFICE: 1985-566-054

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as:

FE No.2 1949

FE76

FE No. 2
1949

FE-76

Diag'd. on Diag. Ch. No. 8802-3

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. Office No. FE-No. 2, 1949

LOCALITY

State RECONNAISSANCE LINES

General locality run in

Locality BRISTOL BAY, ALASKA

1949

CHIEF OF PARTY

R.W.KNOX

LIBRARY & ARCHIVES

DATE December 15, 1949

B-1870-1 (1)

FE No. 2
1949

REPORT OF
1949 BRISTOL BAY RECONNAISSANCE LINES.

In accordance with previous practises of running reconnaissance lines in the Bristol Bay area on refueling trips to and from Dutch Harbor, the PATHFINDER completed four such lines during the 1949 field season. These lines have been plotted on a section of chart 8802 submitted with this report.

CONTROL:

All available control was used; this consisted of single lines of position from LORAN station 112, radar bearings and distances, a few sun sights, sextant fixes, and combination radar distances and pelorus gyro bearings all combined with gyro courses and progressive log distances adjusted for interpolated current effect. LORAN lines of position have been shown on the chart section in green ink with the corresponding microsecond reading. Sun-sight lines of position have been shown in purple ink.

ADJUSTMENTS:

Horizontal (position) and vertical (tide) adjustments were made by plotting predicted tides for Amak Island, Port Moller, and Egegik River entrance on cross-section paper and interpolating a curve of resultant tide and corresponding current effect at progressive points along the line. The interpolated curve was then used for tide reducers and its influencing effect on horizontal positions.

An additional tide curve for Port Heiden, interpolated between Port Moller and Egegik River Entrance tides, was used in the horizontal adjustment for "A" day (May 15th & 16th) but was not used for vertical adjustment as the Port Moller tides near the NE terminus of the line at this time gave practically the same values. Port Moller tides were used throughout for "A" day line for the tide reducers since they are also in agreement with Amak Island tides during this period of run between these two points.

For "B" day (June 27th) all radar distances taken on the mile scale were found to require a negative correction of approximately a mile and a half (read too high by approx. 1.5 miles). When using the middle scale reading yards a negative correction of approximately half a mile was required. These values were determined by the electronics officer on June 28th from a series of comparisons with chart distances while in Dutch Harbor; they should be applied accordingly to all readings marked on the fathogram for "B" day. An additional tide curve for Protection Point was used in influencing both horizontal and vertical adjustments near the origin of the line. Due to atmospheric conditions LORAN lines of position could not be obtained during the initial half of this line.

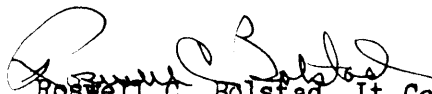
Reconnaissance lines for "C" day (July 5 & 6) and "D" Day (Aug. 9th) were adjusted as for previous lines, however using only the tides of paragraph one, Adjustments. At the start of "D" day the latitude and longitude of position 1 was determined by the navigator from a shoran fix on hydrographic boat sheet # 4149 and a short dead-reckoning run to position 1 D.

Both ends of all reconnaissance lines were considered well "fixed", at the SW ends by a series of visual & radar bearings and distances to Amak Island and at the NE ends by radar bearings and distances to identifiable land objects (except for 1 D, as mentioned in the previous paragraph). Tack line traverses were constructed on a transparent celluloid sheet from log distances and courses; these lines were then adjusted into the control previously plotted on the chart to attain the greatest consistency with the stronger control. The effective currents as previously determined from tidal data was considered in influencing the traverses to fit the control. In general the expansion and contraction of log distances was in agreement with these probable currents; in the few cases where a contrary trend existed the current effect was disregarded.

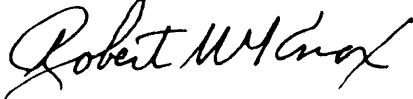
In the vicinity of positions 10 A and 29 D plotted depths indicate these lines may be somewhat out of position. This could be due to the current off the rounded point to the north of Black Hill. On both days the current was flooding at this time. On "A" day the ship was traveling with nearly full fuel tanks with the current while on "D" day the ship was traveling against the current with a considerably lighter load. It appears the effect of current on the ship's position may be more pronounced on "D" day. However since this is not supported by the radar distances as determined on "D" day in this vicinity these two lines have been plotted without course distortion, it being felt that land masses in this area may also be out of position.

14 October 1949

Submitted-


 Roswell C. Bolstad, Lt. Comdr.
 OinC Reconnaissance Lines.

Approved and forwarded:


 Robert W. Knox, Comdr.
 Comdg. USC&GSS PATHFINDER.

Hydrographic Surveys (Chart Division)

FE-No.2, 1949
HYDROGRAPHIC SURVEY NO.

Records accompanying survey:

Boat sheets; sounding vols.; wire drag vols.;
bomb vols.; graphic recorder rolls^{1 envel.};
special reports, etc.
.....

The following statistics will be submitted with the cartographer's report on the sheet;

Number of positions on sheet ¹⁴⁹
Number of positions checked ¹²
Number of positions revised ⁻
Number of soundings revised (refers to depth only) ⁻
Number of soundings erroneously spaced ⁻
Number of signals erroneously plotted or transferred
Topographic details	Time [/]
Junctions	Time [/]
Verification of soundings from graphic record	Time ²

Verification by W. Evans Total time ..⁴... Date 29 Sept. 1950

Reviewed by J. F. Jordan Time ..⁶... Date 9 Nov 1950

REVIEW OF FIELD EXAMINATION NO. 2, 1949

These reconnaissance soundings obtained on refueling trips to and from Dutch Harbor furnish hydrographic information in unsurveyed areas on Chart 8802.

The control of the sounding lines and the reduction of soundings is adequately covered in the Descriptive Report. No sounding volumes were used; all data is recorded on the fathograms. The work is plotted on a section of Chart 8802 which accompanies the Descriptive Report.

The sounding lines overlap and fall between previous reconnaissance lines. Present soundings are in general comparable to prior depths. Differences of 2 and 3 fathoms in 30-to 50-fm. depths are due to the reconnaissance nature of the surveys. The same statement is applicable in a comparison with hydrography on Chart 8802 (49-11/7).

The "reported" 12-fm. sounding charted in lat. $56^{\circ} 08'$, long. $162^{\circ} 05'$, was crossed by two lines on the present examination, in addition to two lines on F.E. No. 5, 1947 and one line on F.E. No. 10, 1948. The sounding appears to be discredited, but in as much as there is no line of soundings within the area two miles south of its charted position it should be retained for the present.

The bottom off Port Moller to lat. 57° between long. 161° and long. 162° does not have the smooth gradient found in adjacent areas of Bristol Bay. An inspection of all the field examination to date, and the fathograms of the 1949 examination reveals an irregular bottom with ridges 5 to 10 fathoms high in 40-fm. depths. Also, a depression area 15 to 20 miles in extent is approximately 10 fathoms below the adjacent bottom level.

G. F. Jordan

Inspected by: R. H. Carstens
November 9, 1950

A shoal with 2 to 3 fathom depth is reported extending true west from Cape Peirce. Distance not given.

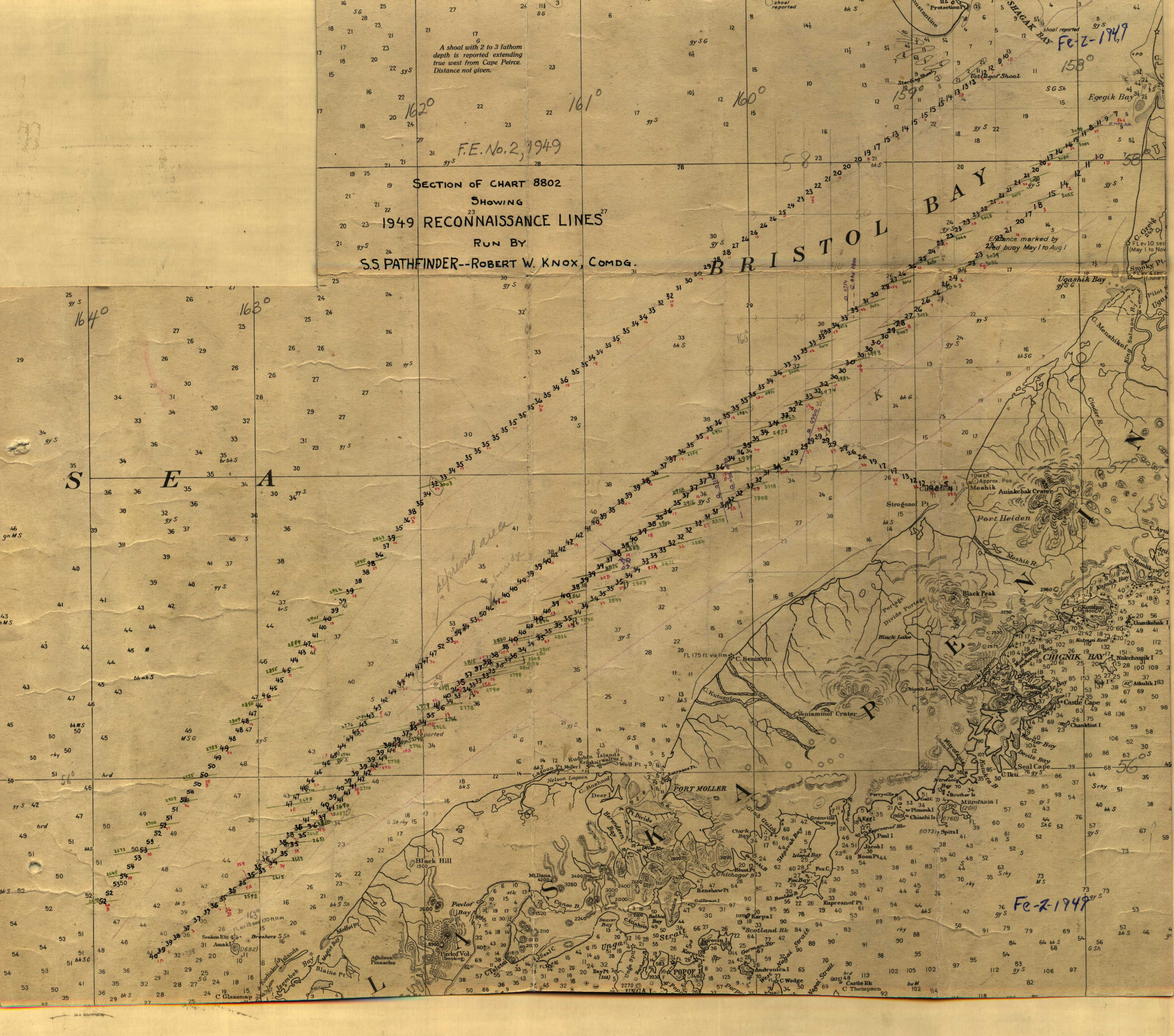
F.E. No. 2, 1949

SECTION OF CHART 8802
SHOWING
1949 RECONNAISSANCE LINES
RUN BY
S.S. PATHFINDER--ROBERT W. KNOX, COMDG.

BRISTOL BAY

Fe-2-1949

Fe-2-1949



NAUTICAL CHARTS BRANCH

SURVEY NO. FE-No.2,1949

Record of Application to Charts

[illegible]

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.